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ABSTRACT

Differences in the effectiveness of a school-based prevention-with-intervention and a prevention-only program for aggressive children were examined. A total of 32 teacher-referred children, matched on externalizing behavior, age, and sex, were randomly assigned to either a treatment group which received both the prevention and intervention components in Semester 1 or a waiting list group which received only the prevention components in Semester 1. Subsequently, in Semester 2, the waiting list group received both the prevention and intervention components. Results indicated that the treatment group was rated by their teachers as improved at posttreatment, relative to the waiting list group, and was not different than a nonclinical control group on several substitute of a shortened version of the Teacher Reform Form (TRF; Achenbach & Edelbrock, 1986). These treatment gains were not maintained at followup, however, nor did the waiting list group show any treatment effects after receiving the intervention. Factors accounting for these unexpected results are discussed. (Author)

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Evaluating a School-Based Program for Aggressive Children: Comparing Outcomes for Different Levels of Service

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ABSTRACT

Differences in the effectiveness of a school-based prevention-with-intervention and a prevention-only program for aggressive children were examined. A total of 32 teacher-referred children, matched on externalizing behavior, age, and sex, were randomly assigned to either a treatment group which received both the prevention and intervention components in Semester 1 or a waiting list group which received only the prevention components in Semester 1. Subsequently, in Semester 2, the waiting list group received both the prevention and intervention components. Results indicated that the treatment group was rated by their teachers as improved at posttreatment, relative to the waiting list group, and was not different than a nonclinical control group on several subscales of a shortened version of the Teacher Report Form (TRF; Achenbach & Edelbrock, 1986). These treatment gains were not maintained at followup, however, nor did the waiting list group show any treatment effects after receiving the intervention. Factors accounting for these unexpected results are discussed.

INTRODUCTION

This past decade has seen an increase in the incidence and severity of violent and aggressive behavior among children. According to the Ontario Child Health Study (OCHS; Offord, Alder, & Boyle, 1986), children attending schools in "high-risk" areas of the city, characterized by subsidized housing and low income, are the most at risk for conduct problems. Given the high prevalence of conduct problems and the difficulty and expense of treating established cases, Loeber (1990) noted that it is important to find effective prevention and early intervention programs.

Schools are well suited as sites for mental health intervention because they provide convenient access to representative samples of children with problem behaviors. As well, generalization and maintenance of treatment effects are facilitated by treatment taking place in the setting where the child experiences difficulties and the peer group can also be included (Coie & Krehbiel Koeppl, 1990; Coie, Underwood, & Lochman, 1992).

School-based interventions usually take one of two forms: prevention with an essentially nonidentified, at risk group (e.g., Hiebert, Kirby, & Jaknavorian, 1989; Olweus, 1992) or direct intervention with a targeted sample (e.g., Coie et al., 1992 Dubow, Huesmann, & Eron, 1987; Mize & Ladd, 1990; Schneider, 1991). However, it has also been suggested that the most efficacious program would combine both prevention and intervention components (Weissberg & Allen, 1986).

The main focus of this study was to examine the relative effectiveness of a school-based prevention-only program with an intervention-with-prevention program for teacher-identified aggressive children who live in a community that places them at risk for the

development of conduct problem behaviors. A second focus of this study was to examine the social validity of the treatment effects with the inclusion of a nonclinical, no-treatment control group.

METHOD

Subjects and Procedure. Teachers were asked to refer children between the ages of 6 to 12 years who presented as disruptive/aggressive to the Earlscourt School-based Program (ESP). A total of 32 children who met the basic criterion of a T-score equal to or greater than 60 on the Externalizing scale of a shortened version of the Teacher's Report Form (TRF; Achenbach & Edelbrock, 1986) were admitted and received a more extensive assessment battery after parents' permission was obtained. They were then matched on conduct problems, age, and sex, and randomly assigned to either the treatment group ($n=16$) which received the intervention and prevention components in the first semester or the waiting list control group ($n=16$) which received only the prevention components in the first semester, and, subsequently, received both the intervention and prevention components in the second semester. A nonclinical control group ($n=13$), rated by their teachers as having a T-score less than 60 on the Externalizing scale of the TRF and matched on age and sex, was used to assess the social validity of the program's effects. The average age of the children by group was 8.4 ($SD=1.5$), 9.2 ($SD=2.1$), and 8.8 ($SD=1.8$) years for the treatment, waiting list, and control groups, respectively, ($F<1$).

Treatment. The Earlscourt School-Based Programme (ESP) is a multifaceted intervention which incorporates both prevention and intensive intervention components to address the needs of high-risk, school children. Prevention components are offered school-wide to

create a more positive school culture and to prevent the escalation of behavior problems. Prevention components included: (a) social skills training in the classroom and (b) prosocial theme weeks. ESP staff and teachers co-lead half-hour, weekly social skills training sessions. Prosocial theme weeks highlight and reinforce prosocial behavior through special activities and integration of the theme into regular curriculum instruction.

Intervention components are designed to decrease aggressive, antisocial behavior and increase prosocial behavior in targeted children. These components included: (a) social-cognitive skills training groups, (b) individual coaching, and (c) family outreach. Group meetings lasting 75 minutes occurred twice each week for 12 weeks. Concurrent half-hour individual sessions were held weekly to individualize treatment to each child's particular needs. The nature of the family outreach varied from information-sharing about the child's progress to family counselling. The targeted children also benefit from the school-wide activities by facilitating the generalization and maintenance of their newly learned prosocial skills.

Measures. Measures for the study were intended to elicit information from multiple sources using a variety of methods (see Table 1). Measures were collected at Time 1 (before either group had received the program) and at Time 2 (after the treatment group received the intervention and before the waiting list received the treatment). As well, the TRF was re-administered at Time 3 (for a three-month followup of those children in the treatment group and at the end of the intervention for the waiting list group). No measures were collected from the control group at Time 3. Lastly, the Olweus (1992) self-report bullying questionnaire was administered to 106 children in grades 4 to 8 in October and in June.

Insert Table 1 about here

Hypotheses.

- The treatment group will show improvement after receiving treatment.
- The treatment group will differ from the waiting list control group at Time 2.
- The treatment group will not differ from the control group at Time 2.
- The waiting list group will show improvement at Time 3.
- The waiting list group will not differ from the treatment group at Time 3.
- The treatment group will maintain treatment gains at Time 3.

RESULTS

To compare the relative effectiveness of an intervention-with-prevention program and a prevention-only program, a series of 3 (group) X 2 (time) multivariate repeated measures analyses of variance (MANOVA) was conducted. Planned comparisons (Dunn's multiple comparison procedure) were subsequently conducted to test the specific hypotheses. Due to a loss of subjects (two children left the school before the Time 2 measures were collected) these analyses were conducted on $n=16$ in the treatment group, $n=15$ in the waiting list group, and $n=12$ in the control group.

Significant group X time effects were found on the Aggressive, $F(2,40)=7.9$, $p<.001$, Delinquent, $F(2,40)=7.5$, $p<.002$, and Externalizing, $F(2,40)=6.9$, $p<.003$, scales of the TRF (Achenbach & Edelbrock, 1986) and the Social Skills scale of the ACTeRS, $F(2,40)=4.5$, $p<.02$, (Ullmann, Sleater, & Sprague, 1987) (see Figures 1-4). Planned

comparisons indicated that teachers rated: (a) children in the treatment group as significantly improved following the program; (b) children in the treatment group as having fewer behavior problems and more social skills than those in the waiting list group at Time 2; and (c) children in the treatment group as not different than the control group on the Aggressive and Delinquent subscales of the TRF at Time 2.

Insert Figures 1-4 about here

To examine followup effects for the treatment group and treatment effects for the waiting list group, 2 (group) X 3 (time) MANOVAs with Dunn's multiple comparison procedure were conducted. Again, due to one child leaving school before the followup measure was collected, these analyses were conducted on $\underline{n}=15$ in the treatment group and $\underline{n}=15$ in the waiting list group.

As shown in Figures 1-3, (a) the waiting list group showed no significant differences between Times 2 and 3 and (b) the treatment group differed significantly from the waiting list group at Time 3. These results suggest that the waiting list group showed no treatment effects after receiving the program. Moreover, the gains made by the treatment group at Time 2 were maintained at Time 3 only for the Delinquent subscale of the TRF.

Lastly, a 2 (group) X 2 (time) ANOVA on the self-reported bullying questionnaire yielded a marginally significant interaction effect, $\underline{F}(1,104)=3.6$, $\underline{p}<.06$. This result indicated that the children who received the program (in either semester) and who completed the questionnaire ($\underline{n}=9$) reported significantly less bullying behavior after the program

(M=1.2) than before (M=1.7), while the children not identified for the program who completed the survey (n=97) reported no change from pretreatment to posttreatment (M=.68 versus M=.68).

DISCUSSION

The results of this study indicated that the ESP was effective in decreasing the problem behaviors and enhancing the social skills of the treatment group. Indeed, comparisons with a group of nonaggressive children indicated that the treatment group's Aggressive and Delinquent TRF scores were not significantly different. These findings support the clinical utility of this multifaceted approach to treatment with this population. At the same time, however, for two of the three TRF scales, these treatment gains were not maintained at followup. This may be due to the loss of one subject from whom followup data were not collected, resulting in a higher pretreatment mean score.

The prevention-only program, while advocated as a cost-effective approach to intervention with high-risk populations, did not appear to be effective. In fact, the waiting list group showed more problem behaviors after receiving this facet of the program than before. Moreover, the waiting list group did not show improvements after receiving all the program components. This finding may reflect several things. First, teachers were not blind to the conditions of the children. Indeed, teachers reported experiencing difficulties with the waiting list group in the first semester (when they did not receive the intervention) resulting in a possible negative bias that was maintained for the duration of the study. The difficulties teachers experienced with this group may have also exacerbated the children's conduct problem behaviors resulting in higher pretreatment baseline scores than the

treatment group. Third, in spite of the matching procedure across conditions and no mean differences in age, the waiting list group had more younger (age 6 years) and older (age 12 years) children than the treatment group. Given the program's cognitive based approach, it may have been too advanced for the younger children (Kazdin, 1993), while the older children may have been more difficult to engage.

In general, while use of a matched, randomized research design with a nonclinical control group indicated program effectiveness with the prevention-with-intervention program, problems with various problems with this applied research study were encountered. These included a small sample size, treatment conditions to which teachers were not blind, and a reliance on teachers' reports for outcome measures. Although alternative sources for data were used in the present study (e.g., classroom observations and self-reports), they were not found to be sensitive to change. Nonetheless, the positive findings we obtained warrant further investigation to examine which treatment components were the most effective.

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Table 1.
Measures Used to Evaluate the ESP

- Shortened version of the Teacher Report Form (TRF; Achenbach & Edelbrock, 1986)
- Shortened version of the Taxonomy of Problematic Social Situations for Children (TOPS; Dodge et al., 1985)
- Social skills items (n=7) of the ADD-H Comprehensive Teacher's Rating Scale (ACTeRS; Ullmann et al., 1987)
- Self-perception Scale for Children (Harter, 1985) or the Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (Harter & Pike, 1983)
- Classroom observations of on/off task behavior
- Bullying survey administered school-wide (Olweus, 1992)

Figure 1

Mean Scores for the Aggressive Subscale of the TRF

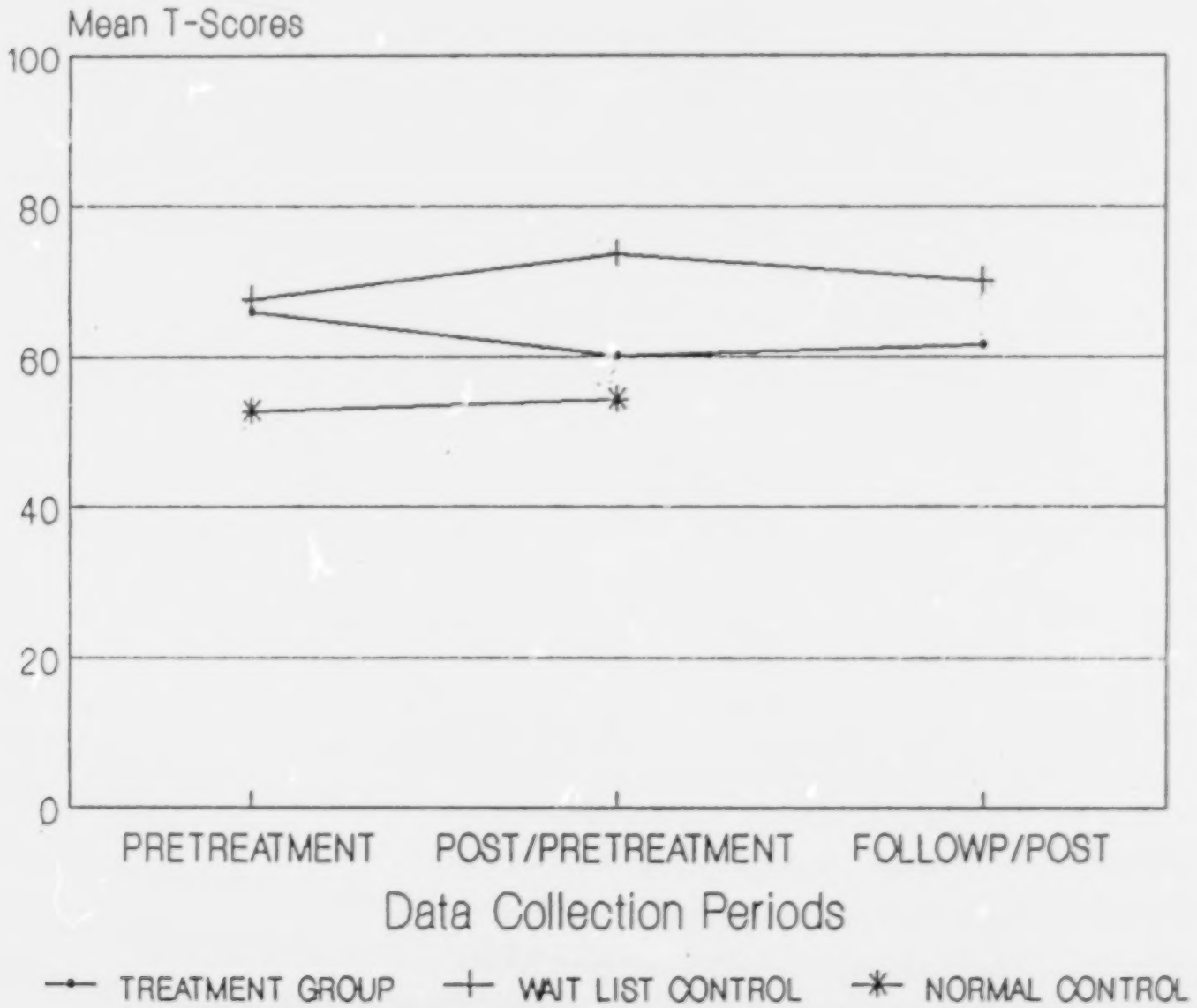

Figure 2

Mean Scores on the Delinquent Subscale of the TRF

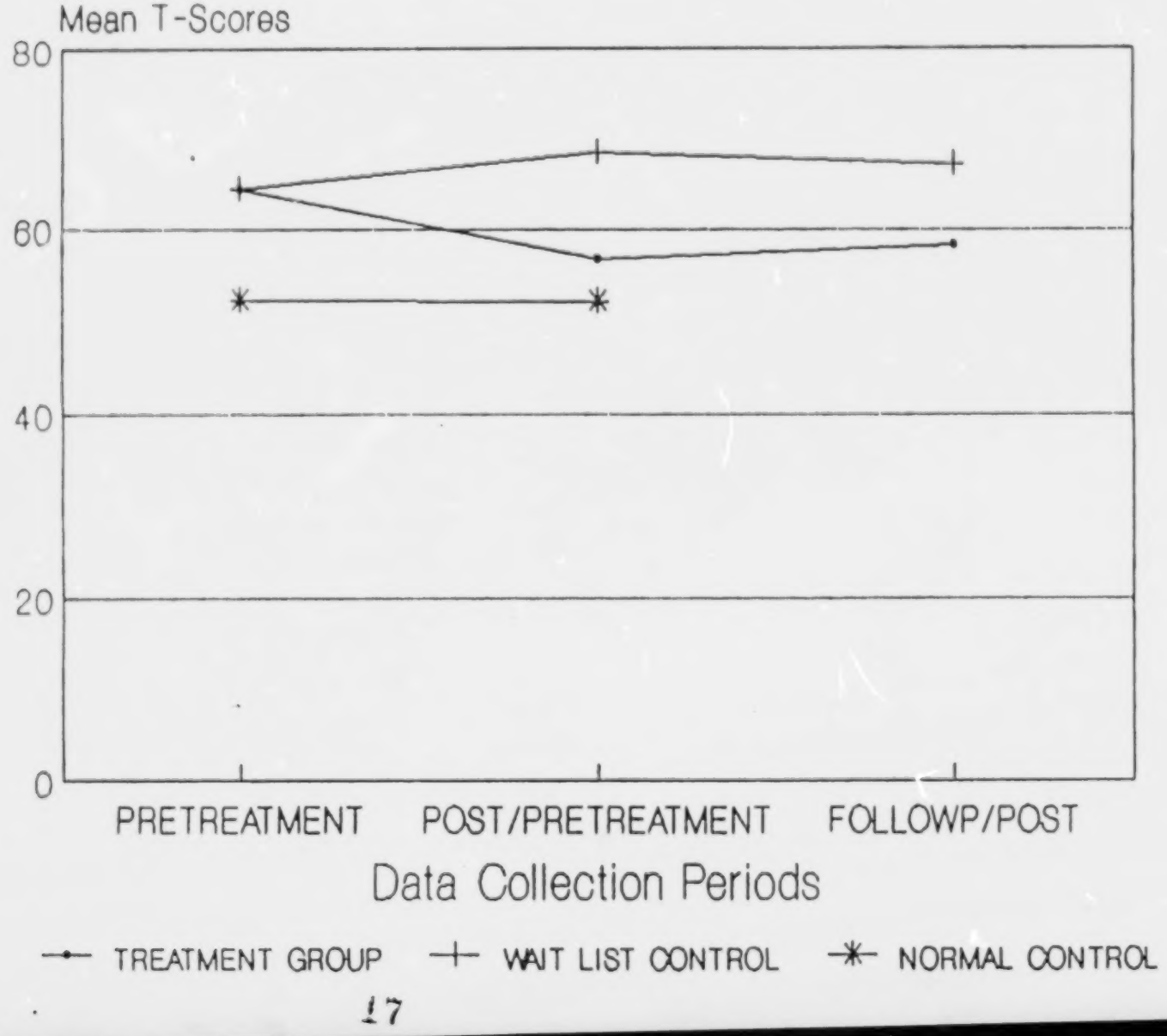

Figure 3

Mean Scores on the Externalizing Scale of the TRF

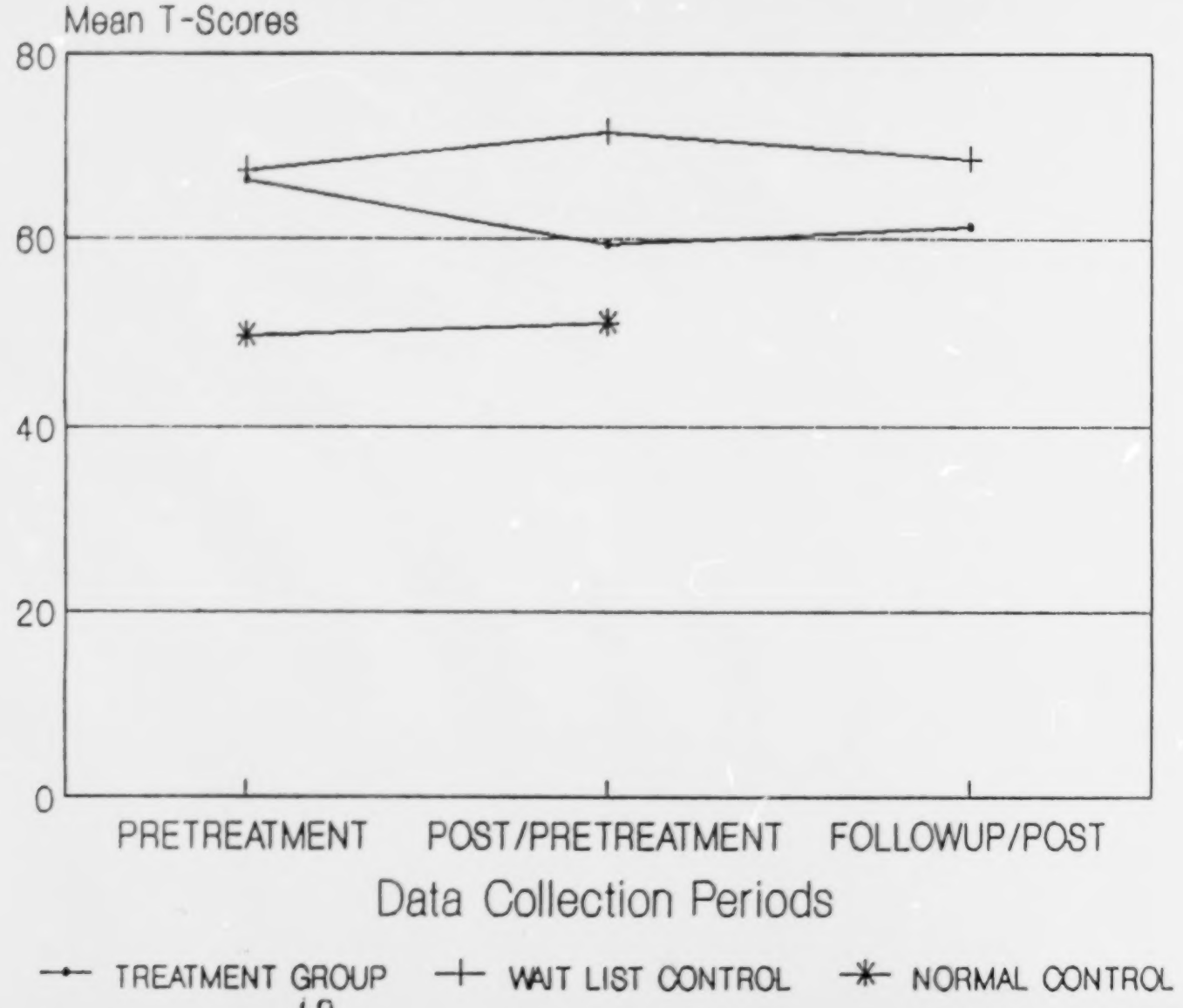

Figure 4

Mean Scores on the Social Skills Scale of the ACTeRS